



## Disclosure to Promote the Right To Information

Whereas the Parliament of India has set out to provide a practical regime of right to information for citizens to secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority, and whereas the attached publication of the Bureau of Indian Standards is of particular interest to the public, particularly disadvantaged communities and those engaged in the pursuit of education and knowledge, the attached public safety standard is made available to promote the timely dissemination of this information in an accurate manner to the public.

“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

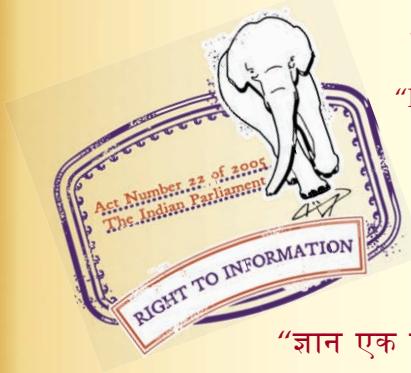
“Step Out From the Old to the New”

IS 8940 (1978): Code of practice for maintenance and care of industrial safety equipment for eyes and face protection  
[CHD 8: Occupational Safety, Health and Chemical Hazards]

“ज्ञान से एक नये भारत का निर्माण”

Satyanaaranay Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartṛhari—Nītiśatakam

“Knowledge is such a treasure which cannot be stolen”





BLANK PAGE



PROTECTED BY COPYRIGHT

# *Indian Standard*

## CODE OF PRACTICE FOR MAINTENANCE AND CARE OF INDUSTRIAL SAFETY EQUIPMENT FOR EYE AND FACE PROTECTION

( First Reprint MAY 1983 )

UDC 614.893.2/.6.004.5 : 681.738



© Copyright 1979

INDIAN STANDARDS INSTITUTION  
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG  
NEW DELHI 110002

# Indian Standard

## CODE OF PRACTICE FOR MAINTENANCE AND CARE OF INDUSTRIAL SAFETY EQUIPMENT FOR EYE AND FACE PROTECTION

Industrial Safety Advisory Committee, ISAC

*Chairman*

**SHRI D. M. DHAR\***

*Representing*

Standing Committee on Safety for the Steel Industry,  
Durgapur

*Members*

<b>SHRI BIMAL BANERJEE</b>	Hind Mazdoor Sabha, Bombay
SHRI BACHA PRASAD ( <i>Alternate</i> )	
<b>SHRI U. C. BANERJEE</b>	Indian Airlines Corporation, New Delhi
SHRI M. N. ARORA ( <i>Alternate</i> )	
<b>SHRI SUSHIL BHATTACHARYA</b>	United Trades Union Congress, Calcutta
SHRI PRATUL CHOWDHURY ( <i>Alternate</i> )	
DR M. K. CHAKRAHORTY	Central Mining Research Station ( CSIR ), Dhanbad
DR B. SINGH ( <i>Alternate</i> )	
<b>DR S. K. CHATTERJEE</b>	Directorate General of Health Services, New Delhi
DR A. K. BANERJEE ( <i>Alternate</i> )	
<b>CHIEF MECHANICAL ENGINEER, NORTHERN RAILWAY, NEW DELHI</b>	Railway Board ( Ministry of Railways ), New Delhi
<b>SHRI B. K. DHAR</b>	Builders' Association of India, Calcutta
LTCOL D. K. GHOSE ( <i>Alternate</i> )	
<b>DIRECTOR ( COMMERCIAL )</b>	Central Electricity Authority, New Delhi
DEPUTY DIRECTOR ( COMMERCIAL ) ( <i>Alternate</i> )	
<b>SHRI K. H. GANDHI</b>	Ministry of Defence ( DGI )
SHRI SATPAL SINGH ( <i>Alternate</i> )	
<b>SHRI S. K. JAGNANI</b>	Indian Cotton Mills Federation, Bombay
<b>SHRI B. D. JOSHI</b>	All India Trade Union Congress, Delhi
<b>SHRI S. H. KAMAT</b>	All India Manufacturers' Organization, Bombay
<b>SHRI KARAN SINGH</b>	
SHRI AJAY KAUL ( <i>Alternate</i> )	Indian National Trade Union Congress, New Delhi

( *Continued on page 2* )

\*Shri D. M. Dhar was Chairman for the meeting in which this standard was finalized.

© Copyright 1979

INDIAN STANDARDS INSTITUTION

This publication is protected under the *Indian Copyright Act* ( XIV of 1957 ) and reproduction in whole or in part by any means except with written permission of the publisher shall be deemed to be an infringement of copyright under the said Act.

(Continued from page 1)

Members	Representing
SHRI A. R. KESHAVA MURTHY	Ministry of Communications
SHRI H. D. KHANNA	Indian Jute Mills Association, Calcutta
SHRI P. N. MEHROTRA	Standing Fire Advisory Committee ( Ministry of Home Affairs ), New Delhi
SHRI G. B. MENON ( Alternate )	
SHRI I. N. MURTY	Chief Controllerate of Explosives, Nagpur
SHRI CHARANJIT LAL ( Alternate )	
SHRI S. NAMBI	Hindustan Aeronautics Ltd, Bangalore
DR N. M. PANT	The Safety First Association of India, New Delhi
SHRI V. K. MURTHY ( Alternate )	
SHRI A. PEREIRA	Safety Appliances Manufacturers' Association, Bombay
SHRI HEATHCLIFF VAZ ( Alternate )	
SHRI S. RAGHAVAN	Ministry of Shipping & Transport
SHRI S. G. RANADE	Directorate General of Ordnance Factories, Calcutta
SHRI S. R. C. RAO	Hindustan Steel Ltd, Bhilai
REPRESENTATIVE	Directorate General of Mines Safety, Dhanbad
SHRI K. C. GANGULY ( Alternate )	
REPRESENTATIVE	National Safety Council, Bombay
SHRI N. RAGHAVAN ( Alternate )	
SHRI I. C. SARIN	Employees State Insurance Corporation, New Delhi
DR K. M. SAXENA ( Alternate )	
SHRI P. SESHADRI	Ministry of Petroleum & Chemicals, New Delhi
SHRI JAGJIT SINGH ( Alternate I )	
SHRI P. C. EASAW ( Alternate II )	
SHRI D. K. SIRKAR	Indian Chemical Manufacturers' Association, Calcutta
SHRI P. R. SURENDRANATHAN	Directorate General, Factory Advice Service and Labour Institutes ( Ministry of Labour ), Bombay
SHRI K. C. SAKSENA ( Alternate )	
TECHNICAL ADVISER ( BOILERS )	Central Boilers Board, New Delhi
SHRI P. K. THAKUR	Indian Roads Congress, New Delhi
SHRI G. VISHWANATHAN ( Alternate )	
SHRI S. VENKASWAMY	Directorate General of Civil Aviation, New Delhi
DR G. M. SAXENA,	Director General, ISI ( Ex-officio Member )
Director ( Chem ) ( Secretary )	

**Safety Equipment Subcommittee, ISAC/S-2**

*Convenor*

SHRI D. M. DHAR Hindustan Steel Ltd, Durgapur

*Members*

SHRI J. J. ADHIA	Century Spinning and Manufacturing Co Ltd, Bombay
SHRI M. V. RAO ( Alternate )	
SHRI K. BARDEHAN	Ministry of Defence ( DGI )
SHRI J. P. AGARWAL ( Alternate )	
SHRI K. N. BHATTACHARYA	The Safety First Association of India ( Bihar Branch ), Jamshedpur
SHRI N. K. SARAN ( Alternate )	

(Continued on page 8 )

*Indian Standard*

**CODE OF PRACTICE FOR  
MAINTENANCE AND CARE OF  
INDUSTRIAL SAFETY EQUIPMENT FOR  
EYE AND FACE PROTECTION**

**0. FOREWORD**

**0.1** This Indian Standard was adopted by the Indian Standards Institution on 18 October 1978, after the draft finalized by the Industrial Safety Advisory Committee had been approved by the Executive Committee.

**0.2** This standard is intended for use in industries by safety officers, purchasing agents, plant managers, foremen and all other industrial supervisors charged with the responsibility of proper selection, maintenance, use and repair of industrial safety equipment for eye and face protection.

**0.3** Assistance has been derived in preparing this standard from safety pamphlet No. 106 'Conservation of personal protective equipment', published by the National Safety Council, America, and is gratefully acknowledged.

---

**1. SCOPE**

**1.1** This standard lays down recommended practices in maintenance and care of safety equipment for protection of eyes and face in industry. It suggests means of getting optimum effective use from these devices.

**2. USE AND CARE OF GOGGLES**

**2.1** Goggles protect the most important part of the body, that is, the eyes. They should get the same care as a pair of prescription glasses.

**2.2** Keep goggles in a substantially clean case or box to prevent scratching. Do not throw them carelessly into tool boxes or on to the bench. Never carry goggles loose in the pocket.

**2.3** Keep the goggles in proper condition and have pitted lenses replaced before they cause eye strain.

**2.4** Prolong the life of head bands by occasional washing with warm soap solution, followed by thorough rinsing.

**2.5** If the goggles break, do not discard them, but deposit them with the assigned authority in the plant so that some parts of the goggles may be retained or repaired.

**2.6** Keep goggles clean and make sure they are sterilized frequently. Wipe lenses carefully with a clean, soft cloth.

**2.7** Clean oil, grease, acids or solvents from eye cups, leather, rubber or metal parts. Oil and grease deteriorate rubber parts and reduce the life of elastic head bands.

**2.8** Do not stretch elastic or fabric head bands by twisting them or by hanging goggles on a nail.

**2.9** Do not borrow or lend goggles unless they have been cleaned and sterilized.

### **3. SELECTION OF GOGGLES**

**3.1** By careful survey of plant operations, determine the proper type of goggles required for each operation and then select goggles that will give the best protection and longest life.

**3.2** Select light goggle frames which are strong enough to hold their shapes. Select materials which will not readily corrode, and which will withstand sterilization. Where there is a possibility of contact with electric circuits, do not use goggles with metal parts. Do not use for any purpose goggles with frames of nitrocellulose or other flammable materials. The screw or rivet which fastens the temple of the frame of spectacle and side shield goggles should be a separate unit and should not be used to hold the lenses in the frame.

**3.3** If frequent replacement of the lenses is necessary, select goggles with frames or eye cups that will permit easy replacement on the job. Use hardened lenses where there is a danger of moderate or heavy impact, and consider using plastics materials where special resistance to pitting and spark, such as in spot welding. Protect prescription lenses in goggles with plastics face shields which resist sparks; preferably provide screens or shields which stop such harmful materials.

### **4. FITTING AND ADJUSTMENT**

**4.1** Adjustment and fitting should be made by only trained qualified individuals. Never allow an untrained employee to make the goggles fit because they may be damaged. Make sure that each person requiring goggles is provided with a pair suited to his fit and provide a suitable case if the goggles are not to be used continuously.

**4.2** Avoid twisting the flexible hand bands with a view to providing increased tension, as this weakens the fabric or rubber parts. Do not adjust them too tightly as this will stretch the hand band. Adjust temple pieces by holding the goggles firmly in one hand and shaping the temple piece gradually by drawing it slowly between the thumb and forefinger of the other hand.

## **5. CLEANING**

**5.1** Instruct all employees provided with individual goggles regarding cleaning procedure. Encourage frequent cleaning of goggles and check regularly the condition of goggle cleaning facilities. See that goggles are thoroughly cleaned and sterilized before they are reissued and worn by other employee.

**5.2** Provide a number of convenient dispensers filled with a commercial cleaning solution, which will quickly remove grease and oily film. If goggles are serviced by an appointed agency, set up a schedule which will ensure regular cleaning and sterilization of every goggle in use.

**5.3** Do not use carbon tetrachloride, gasoline, naphtha or other petroleum spirits which soften rubber or plastics parts and dry out leather parts of goggles. Some of these solvents also create explosion hazard and might cause skin rash if left on the equipment.

**5.4** Remove oil, grease, dirt or similar materials by thorough scrubbing with warm soap water solution, followed by rinsing in lukewarm water and thorough drying. However, wash leather parts with saddle soap and then apply a leather dressing to prevent cracking. Do not dry any goggles by exposure to excessive heat.

## **6. STERILIZATION**

**6.1** Before sterilizing goggles, disassemble them and scrub them thoroughly with soap water to remove accumulation of dirt or other foreign substances. After they have been thoroughly cleaned, sterilize them by one of the following methods:

- a) Immerse for 10 minutes in 2 percent cresol solution or 3 percent carbolic acid solution or 70 percent denatured alcohol solution.
- b) Immerse for 10 minutes in a solution of formalin made by mixing one part of 40 percent formaldehyde solution with 9 parts of water.
- c) Place in a moist atmosphere saturated with antiseptic vapours, preferably formaldehyde for 10 minutes at room temperature.

- d) Immerse for one minute in a 10 percent solution or for 3 minutes in 5 percent solution of sodium hypochlorite.
- e) Goggles without plastics or rubber parts may be sterilized as follows:
  - 1) Immerse in boiling water for a period of 5 minutes.
  - 2) Immerse in a steam-bath for a period of not less than 5 minutes.

**NOTE** — Provide proper protective equipment for personnel doing the above work. If formaldehyde vapour, sodium hypochlorite, cresol or ethyl alcohol is used as a sterilizing agent, carry out such operations in closed containers, exhausted to the outside or under exhaust hoods.

**6.2** After cleaning and sterilization, put the goggles in paper or cellulose film envelope or store them in dust-tight boxes for reissuance. If possible, mark these containers to assure the user that he is getting complete protection.

## **7. INSPECTION AND REPAIR**

**7.1** Inspect goggles frequently while in service. See that damaged parts, pitted lenses, etc, are replaced before they cause discomfort or result in loss of protection. Investigate the cause of unusual damage and eliminate them.

**7.2** Repair goggles through a central control system. Train special personnel to make minor repairs within the plant, but discourage employees from doing makeshift repairs which might only shorten the life of the goggles. Do not use reconditioned lenses. Lenses shall be firmly fitted in the eye cup or frame in order to prevent shattering or breaking on impact. By frequent removal and cleaning avoid 'freezing' of lens retaining rings to the eye cup. Warn employees not to use oil or grease on the threads of those parts as the oil may cause them to stick. Caution repair men not to use force and to treat parts of goggles as they would precision watch parts.

**7.3** Stock adequate supplies of lenses, eye cup connectors, screens, head bands and other parts subject to wear and damage, which can rapidly be assembled without elaborate equipment. Side screens and other parts assembled with small eyelets shall usually be sent back to the supplier as special equipment is required to assemble them.

**7.4** If possible store goggles in glass covered, dust-tight cabinet permitting easy inspection and maintenance. Such cabinets are safe, convenient and keep goggles under favourable conditions.

7.5 Furnish employees with individual goggle cases for use during washing hours. If dust-tight cabinets are not used, it is desirable to provide small boxes or compartments in which each employee stores his goggles between shifts. Group storage of either type permits periodic inspection, cleaning and sterilization while the employee is offshift.

(Continued from page 2)

<i>Members</i>	<i>Representing</i>
SHRI N. C. BRAHMA	Indian Chemical Manufacturers' Association, Calcutta
SHRI A. DAS GUPTA	Adigeo Industries, Calcutta
SHRI B. DAS GUPTA ( <i>Alternate</i> )	Central Mining Research Station ( CSIR ), Dhanbad
DR A. K. GHOSH,	
SHRI P. R. ROY ( <i>Alternate</i> )	Mines Service Corporation, Asansol
SHRI P. P. JAIN	
SHRI A. P. AGARWALA ( <i>Alternate</i> )	Indian Oxygen Ltd, Calcutta
SHRI S. S. MAZUMDAR	
SHRI K. C. KARMARKAR ( <i>Alternate</i> )	Chief Controllerate of Explosives, Nagpur
SHRI I. N. MURTY	
SHRI CHARANJIT LAL ( <i>Alternate</i> )	National Physical Laboratory ( CSIR ), New Delhi
DR M. PANCHOLY	
SHRI C. PEREIRA	Joseph Leslie & Co, Bombay
SMT C. LESLIE ROY ( <i>Alternate</i> )	
SHRI S. G. RANADE	Directorate General of Ordnance Factories, Calcutta
REPRESENTATIVE	National Safety Council, Bombay
SHRI N. RAGHAVAN ( <i>Alternate</i> )	
SHRI GAUTAM V. SHAH	Safety Equipment Corporation, Bombay
SHRI J. V. SHAH ( <i>Alternate</i> )	
SHRI S. D. SHROFF	Pradeep Safety Pvt Ltd, Bombay
SHRI LAL SAJNANI ( <i>Alternate</i> )	
SHRI D. K. SIRKAR	Synthetics and Chemicals Ltd, Bareilly
SHRI A. C. SRIVASTAVA	Directorate General of Mines Safety, Dhanbad
SHRI R. L. ARORA ( <i>Alternate</i> )	
SHRI P. R. SURENDRANATHAN	Directorate General, Factory Advice Service and Labour Institutes ( Ministry of Labour ), Bombay
SHRI K. C. GUPTA ( <i>Alternate</i> )	
SHRI FRANCIS LESLIE VAZ	Francis Leslie & Co, Bombay
SHRI HEATHCLIFF VAZ ( <i>Alternate</i> )	